

Claims

1. A variable optical attenuator that attenuates light injected from an optical transmission channel for input and outputs the light into an optical transmission channel for output and that can adjust optical attenuation, wherein

the optical transmission channel for input, the optical transmission channel for output, light reflection surfaces that reflect light emitted from the optical transmission channel for input to the optical transmission channel for output, and an actuator that moves all or part of the light reflection surfaces relatively and straightly to at least one of the optical transmission channel for input or the optical transmission channel for output.

2. The variable optical attenuator according to claim 1 characterized in that the actuator moves straightly one of at least part of the light reflection surfaces, and any one of the optical transmission channel for input and the optical transmission channel for output such that an optical axis of the light reflected to the optical transmission channel for emission is displaced with respect to an axis center of the optical transmission channel for emission.

3. The variable optical attenuator according to claim 1, which has a monitor part that receives light which is emitted from the transmission channel for input but not injected into the optical transmission channel for output.

4. The variable optical attenuator according to claim 3, wherein an injection lens disposed oppositely to a light injection surface of the optical transmission channel for output and a monitor lens disposed oppositely to a light injection surface of the monitor part are unified.

5. The variable optical attenuator according to claim 3, which has a function of correcting a position of the light reflection surfaces depending on output from the monitor part.

6. The variable optical attenuator according to claim 1, wherein the actuator comprises a voice coil motor and a latch mechanism.

7. The variable optical attenuator according to claim 1, which has a mirror member having the light reflection surfaces that are two surfaces making an angle of 90 degrees, and the actuator that straightly moves the mirror member.

8. The variable optical attenuator according to claim 1, which has a fiber array that holds the optical transmission channel for input and the optical transmission channel for output arranged parallel to each other.

9. The variable optical attenuator according to claim 1 characterized in that the light reflection surfaces are formed from a boundary face between transparent media having different refractive indicia and perfectly reflect light.